

Rocky Mountain Research Station

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Restoration Through Science-based Collaboration: How Research and Management Reversed Declines of Idaho Westslope Cutthroat Trout

Westslope cutthroat trout (*Oncorhynchus clarkii lewisi*, WCT) were highly valued by Idaho's Indigenous people and subsequent immigrants. Historically, WCT were extremely abundant, widely distributed, and the dominant trout in central and northern Idaho. Early 20th-century anglers enjoyed exceptional fishing; St. Joe River anglers reported WCT catches of 35 pounds in 1 hour! Despite restricted harvest and habitat protections since 1899, many Idaho WCT populations declined, primarily from habitat degradation and excessive harvest. By the 1960s, WCT in several major drainages were on the brink of collapse.

In response, a dedicated group of fisheries researchers and managers collaborated to investigate WCT and

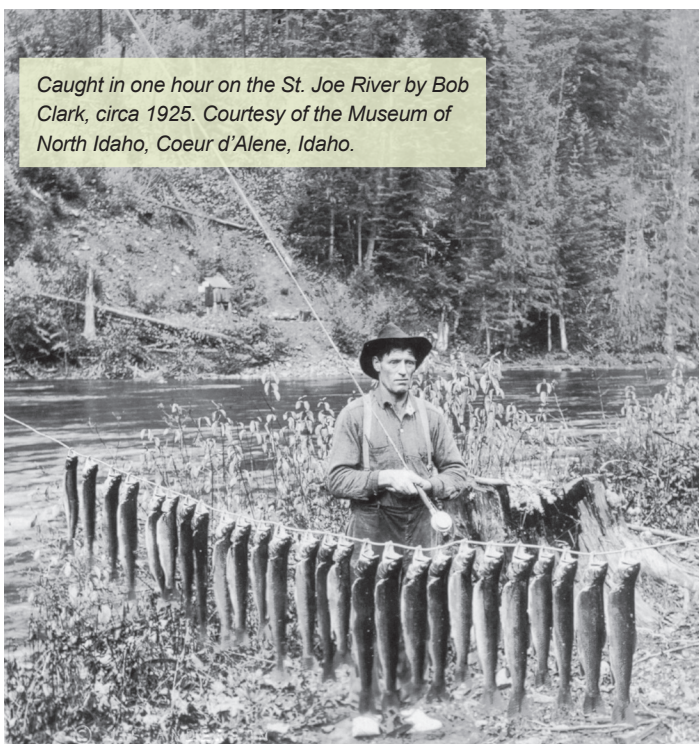
develop evidence-based angling regulations and habitat restoration alternatives. As a result of these sustained efforts, populations in many watersheds have been rehabilitated and WCT remain an important ecological, cultural, recreational, and economic resource.

Retired Idaho Department of Fish and Game (IDFG) biologist Jerry Mallet and Rocky Mountain Research Station scientist Russ Thurow recently chronicled case histories of fluvial WCT restoration. Mallet explains, "Successful WCT recovery efforts were led by IDFG biologists with important contributions from University, Tribal, State, and Federal biologists." Thurow adds "Idaho case histories illuminate decades of sustained, science-based research and management collaboration and offer insights to assist WCT recovery in other portions of their range."

Early Conservation Efforts

Efforts to conserve declining fish and wildlife resources prompted the establishment of IDFG in 1899. Its first director listed his major accomplishment as stopping market sale of game and trout. An 1899 *Idaho Statesman* article reported the arrest of two individuals with "between 400 and 500 pounds of trout" intended for markets. The IDFG established seasons and limits, mandated hook-and-line angling, outlawed sale of fish, and began habitat protections. Idaho's human population was small (<500,000 in 1930) and many WCT habitats remained inaccessible.

Conditions dramatically changed after World War II as human populations increased, many roads were built, and more habitats were degraded. Idaho citizens also enjoyed more leisure time and improved fishing gear,



Caught in one hour on the St. Joe River by Bob Clark, circa 1925. Courtesy of the Museum of North Idaho, Coeur d'Alene, Idaho.

Their aggressive feeding, high catchability, and beauty make native westslope cutthroat trout ideal for angling. Photo by Steve Pettit on the Lochsa River, Idaho.



so WCT harvest increased. Despite early conservation efforts, WCT continued to decline.

Collaboration Illuminates a Science-based Path to Recovery

Opportunities to manage WCT improved with financial support via the Dingell-Johnson Act of 1950. With additional funds, Idaho increased fisheries biologists from two to eight in 1952. These additional biologists soon identified declining WCT as a problem. In many major drainages, WCT were on the brink of collapse and anglers were dissatisfied. Yet the species was still poorly understood.

Researchers responded by investigating WCT life histories, population dynamics, and habitat requirements and angler preferences. In collaboration with managers, researchers applied data to develop alternatives and implement restoration actions.

Despite continued threats from a changing climate, habitat degradation, and invasive species, many Idaho fluvial WCT populations are relatively secure. The species currently inhabits about 80 percent of its

historical stream range in Idaho. Idaho's experiences suggest high-quality habitat, coupled with restricted angler harvest, are necessary to sustain WCT.

KEY MANAGEMENT CONSIDERATIONS

- Decades of science-based collaboration by researchers and managers helped restore WCT populations in Idaho. This sustained and successful collaboration offers insights to assist WCT recovery in other portions of their range.
- Historically, WCT were extremely abundant, highly valued by Indigenous people and immigrants, and the dominant trout in central and northern Idaho. By the 1960s, populations in several major drainages were on the brink of collapse.
- Researchers responded by investigating WCT life history and ecology and collaborated with managers to develop evidence-based angling regulations and habitat restoration alternatives. Populations in many watersheds have been rehabilitated and fluvial WCT inhabit about 80 percent of their historical Idaho stream range.
- Despite successes, WCT remain threatened by climate change and other factors. Science-based recovery efforts and prioritization of conservation actions will be essential to boost WCT resiliency and adaptation to an uncertain future.

FURTHER READING

Mallet, J.; Thurow, R.F. 2021. [Resurrecting an Idaho icon: How research and management reversed declines of native westslope cutthroat trout](#). Fisheries. doi: 10.1002/fsh.10697

Shepard, B.B.; May, B.E.; Urie, W. 2005. [Status and conservation of westslope cutthroat trout within the western United States](#). North American Journal of Fisheries Management. 25(4): 1426–1440.

Isaak, D. J., M. K. Young, D. E. Nagel, D. L. Horan, and M. C. Groce. 2015. [The cold-water climate shield: delineating refugia for preserving salmonid fishes through the 21st century](#). Global Change Biology. 21: 2540-2553.

PROJECT LEADS

[Russ Thurow](#) is a fisheries scientist with the USDA Forest Service, Rocky Mountain Research Station. Russ began investigating WCT in 1973 and his research focuses on understanding aquatic ecosystems and developing native salmonid conservation and restoration strategies.

Jerry Mallet is a retired fisheries biologist and began investigating WCT in 1959. During his 44-year career with IDFG, Jerry worked in research, management, and administration and helped establish the foundation for WCT recovery.

The Rocky Mountain Research Station is one of seven units within USDA Forest Service Research & Development. RMRS maintains 14 field laboratories throughout a 12-state geography encompassing parts of the Great Basin, Southwest, Rocky Mountains, and the Great Plains. While anchored in the geography of the West, our research is global in scale. RMRS also administers and conducts research on 14 experimental forests, ranges and watersheds and maintains long-term research databases for these areas. Our science improves lives and landscapes. More information about Forest Service research in the Rocky Mountain Region can be found here: <https://www.fs.usda.gov/rmrs/>.

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